

OWNER'S MANUAL

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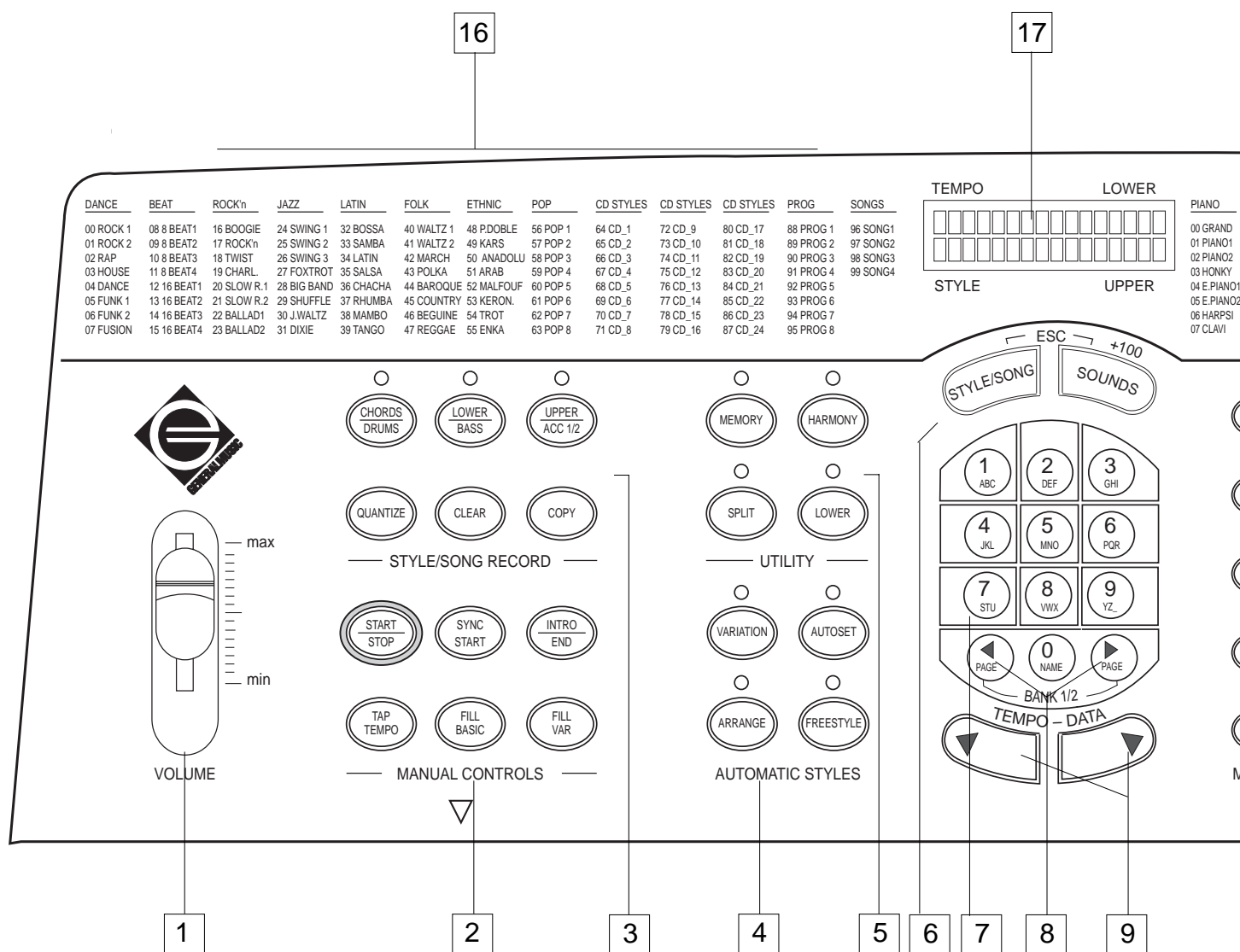
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Control Panel



1. Volume. Regulates the general volume level. The regulation is proportional with respect to the individual regulation of each timbral part.

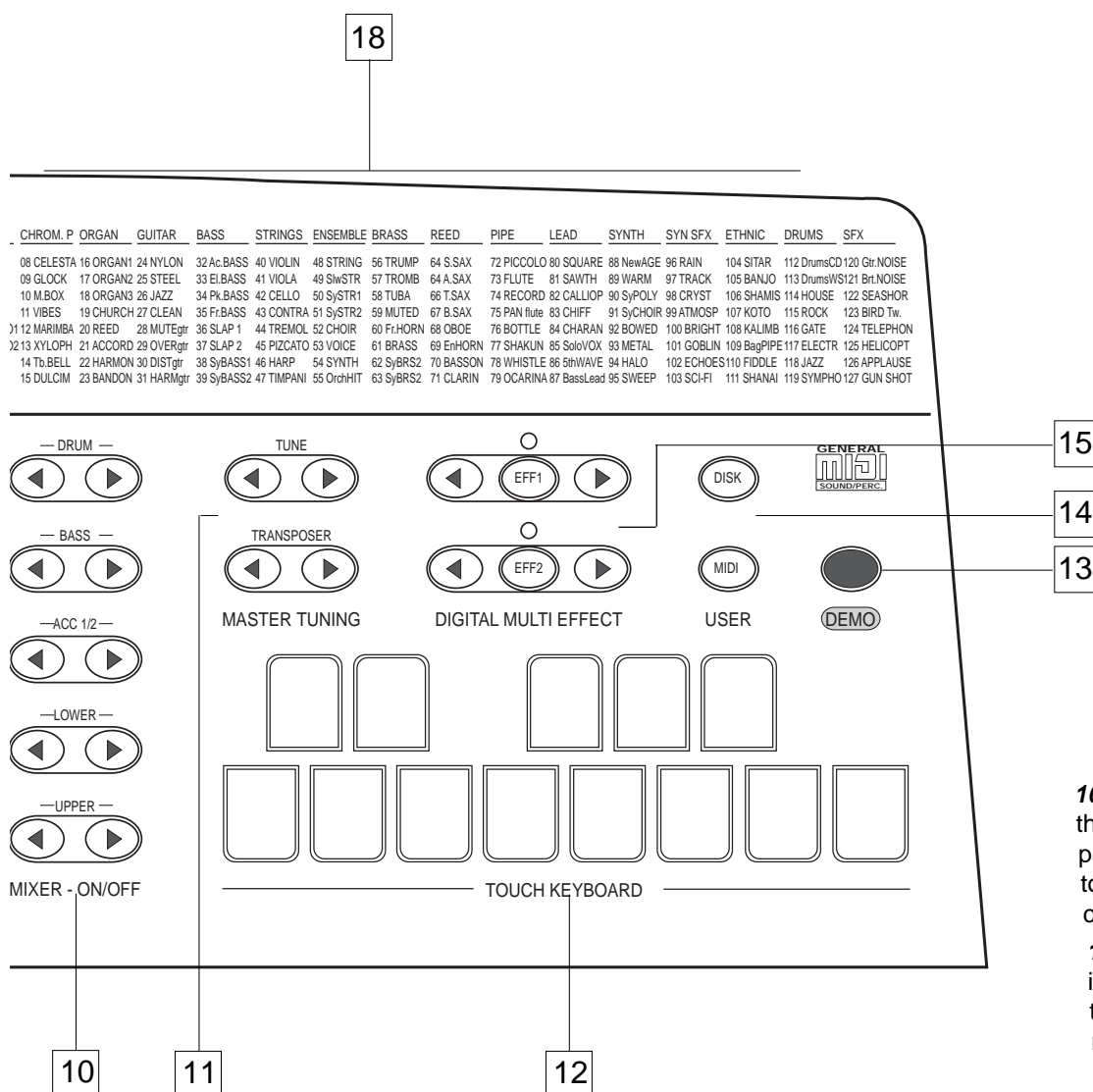
2. Manual Controls. Manual control of the rhythm and automatic accompaniment. [START/STOP] starts or stops the style. [SYNC START] starts the Style when a note or chord in the Lower part is played (or restarts the Song). [INTRO/END] starts or stops the Style with an intro or an end fill. [TAP TEMPO] starts the Style after the tempo has been tapped out. [FILL BASIC] recalls the fill and/or reverts to the basic Style version. [FILL VAR] recalls the fill and changes the Style variation.

3. Style/Song Record. Sequencer controls. Style e Song recording. [CHORDS/DRUM], [LOWER/BASS], [UPPER/ACC1/2] are the track buttons. [QUANTIZE] makes the quantize function available. [CLEAR] gives access to global erasure (Clear), selective erasure (Erase), and editing (Edit). [COPY] allows a Style or one of its parts to be copied.

4. Automatic Styles. [VARIATION] activates/disactivates the Style variation. [AUTOSET] changes the part Sounds, tempo and effects when the Style is changed. [ARRANGE] activates/disactivates the automatic accompaniment parts (except for the Drum parts). [FREESTYLE] eliminates the split and allows a chord for the Style to be constructed (a minimum of 3 notes) using the whole keyboard range.

5. Utility. Controls the interaction between the Lower e Upper parts of the keyboard. [SPLIT] activates/disactivates division between the Upper and Lower parts. [LOWER] activates/disactivates the Lower part. [MEMORY] sustains the notes played in the Lower part. [HARMONY] harmonizes the Upper part with the chord used in the Lower part.

6. The [STYLES] and [SOUNDS] buttons. [STYLES] prepares the keypad for Style selection. [SOUNDS] prepares the keypad for Sound selection. When pressed at the same time they give an [ESC] function, which cancels certain change situations and allows exit from the Song "record" mode, from



the MIDI and DISK programming modes and from the Song and Style edits.

7. The Keypad. Consists of numbers and letters. If the Style name flashes on the display, enter the chosen style. If the Upper Sound flashes then enter the chosen Upper Sound. and likewise if the Lower Sound is flashing enter the Lower Sound required.

8. The [PAGE] buttons. In the MIDI or DISK modes these allow movement between the previous or successive edit pages. If the Sound name is flashing they allow you to scroll backwards and forwards in the Sound list. If the Style name is flashing you can scroll backwards and forwards in the Style list. When pressed together they allow a different sound bank to be chosen (Sound Bank 1 or 2).

9. The [TEMPO-DATA] buttons. Allow you to vary the Style tempo. If pressed together they set the tempo to a 120 mid-tempo. In the MIDI and DISK modes they allow you to change the values of the parameters set.

13. The [DEMO]

button. Starts a sequence of demo songs. Press the button once more to stop the sequence.

14. User. [DISK] gives access to the disk drive (only on CD30). [MIDI] gives access to the Midi programming mode.

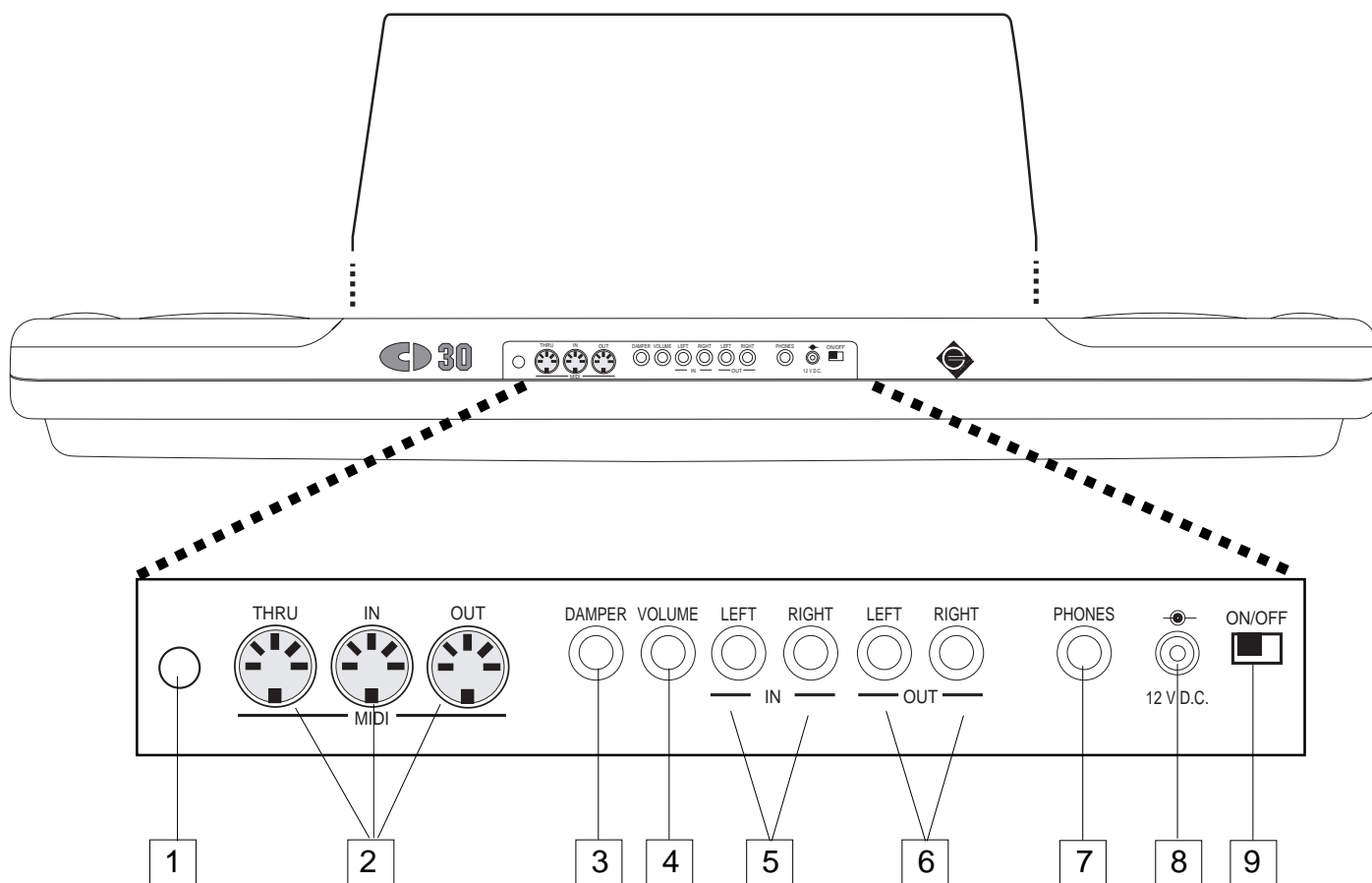
15. Digital Multi Effect. The effects section. The centre buttons activate/disactivate the effects. The arrow buttons are used to select one of the 16 different variations of each effect. EFF1 covers the modulations (chorus, phaser, flanger, ensemble, rotary). EFF2 covers various types of reverb (hall, room, concert, church, vocal, plate) and delay.

16. Style List. Styles listed in family groups. Each Style has a number which is used to select it on the keypad or by MIDI (Program Change).

17. Display. Normally shows the tempo, Style and Sounds of the Upper and Lower parts. Other information will appear when a parameter is being modified.

18. Sound List. Sounds are grouped into families according to the General MIDI standard. Each Sound has a number which is used to select it on the keypad or by MIDI (Program Change).

Rear panel connections



1. Contrast. Regulates the display contrast.

2. Midi In/Out/Thru. Sockets for connection with other musical instruments (or computers). MIDI IN allows the CD20/30 to be controlled by another instrument. MIDI OUT lets the CD20/30 control another instrument. MIDI THRU passes out all data arriving at the MIDI IN port.

3. Damper. For connecting a Damper (or Sustain) pedal. Sustains the Upper part notes.

4. Volume. Connection for a Volume pedal. This controls the overall volume of the instrument.

5. Audio In Left-Right. Inputs for another musical instrument or another sound source (Compact Disc, MiniDisc, DAT, audiotape...). The incoming sound can be either mixed with that of the CD20/30 and heard through the built in speakers, from the AUDIO OUT socket or from the PHONES output.

6. Audio Out Left-Right. Outputs for connection with an amplifier or an amplified mixer. Connect both outputs for Stereo or just the RIGHT output for mono. Use two 1/4" jack plugs for connection with a musical instrument amplifier:



If you are connecting up to a hi-fi stereo amplifier use two RCA type mini jack plugs:



7. Phones. Output for stereo headphones. Use an RCA 1/4" adaptor for walkman or minidisc headphones.

8. Power supply socket. Connect the optional mains adaptor to this socket. The power supply overrides any batteries which may be in the instrument.

Please note: do not use other makes of mains adaptor which have not been specially designed for the CD20/30. Some other transformers may look like the same but can cause serious damage to the circuitry. Check that the adapter shows the following symbol (= internal positive pole):



9. On/Off switch. Turns the CD20/30 on or off!

Introduction

What is the CD20/30

The CD20/30 is a keyboard which can provide automatic accompaniment (Style). The Styles allow you to play live with the backing of a “real band”; one person alone can give the impression of playing all the instruments in this band single handed, either for personal enjoyment or to entertain friends.

As well as this, the CD20/30 can memorize up to four Songs which play back a performance and allow you to listen to that performance over and over again to see where you went wrong, or the CD20/30 can be used as a backing track while you play another instrument over the top.

Of course, the CD20/30 can be used as a solo instrument in a real group and, because of its realistic sounds, it can be used as an electronic organ, piano or even a whole string orchestra.

The sounds of the CD20/30 are “sampled”, that is to say recorded from live sources using a technique similar to that used for the Compact Disc. Sampling allows sounds to be obtained which are very realistic, clear and dynamically very strong.

The CD20/30 can use its own built in speakers, or can be connected up to an external amplification system (stereo amplifiers, amplified speakers, amplified mixers).

The CD30 model incorporates a disk drive, which allows automatic rhythms and songs to be stored and played again as well as allowing Midi File disks, available in music shops, to be loaded.

Please note: on switching off some program settings are lost

Every time the CD20/30 is switched off, its settings return to the initial state (called the default mode). The sounds assigned to the instrument parts and the Style selections revert to the factory set configurations.

The Songs, Prog. Styles, split keyboard settings and certain MIDI settings however, do stay in the memory once the instrument has been turned off because they rely on a battery powered back up memory.

Maintenance

- Clean the surface with a soft cloth which has been slightly dampened with light detergent.
- Clean the display with a suitable lens or monitor solution.

Precautions

- Read carefully the chapter on “ Power supply and connections” before turning on the instrument.
- Only use the type of batteries recommended and the optional mains adaptor supplied by Generalmusic.
- Do not use the instrument near water.
- Carefully check the amplifier volume control before starting to play. Excessive volume can cause permanent hearing loss.
- Keep the instrument away from heat sources. Do not expose the instrument to intense cold.
- Leave enough space around the instrument for it to be properly ventilated.
- Do not let any small objects or liquids fall into the instrument. If such a situation should occur, switch off the instrument immediately and seek specialist technical help.
- Do not open up the instrument.
- Seek specialist technical help when: a) the mains adaptor is damaged; b) objects or liquid have got inside the instrument; c) the instrument has been affected by rain; d) the instrument starts functioning unusually; e) the instrument has been dropped and the outside casing has been damaged.

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Power supply, connections, demos

Power supply

The CD20/30 can either be powered by batteries, or by the mains supply (using the optional mains adaptor).

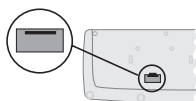
The two methods of supplying power are alternatives. When the mains adaptor plug is inserted it automatically overrides the batteries.

Inserting the batteries

If connected, unplug the mains adaptor from the socket on the instrument.

Use 1.5V "C" size (R14) batteries. Alkaline batteries last longer than normal ones and should be preferred.

1. Turn the instrument over so that the battery compartment underneath is accessible:



2. Remove the flap and slide in the batteries. Make sure that the "+" and "-" polarities on the batteries coincide with the corresponding polarity signs marked on the instrument (the "-" pole must be towards the inside of the compartment).
3. Close the battery compartment and turn the instrument back the right way up.
4. Turn on the instrument by setting the switch to ON.

Connecting the mains adaptor to the power supply

Use only the mains adaptor provided as an option by Generalmusic. Any other type of adaptor, even though it may look the same, may not be suitable and will therefore cause damage to the equipment.

1. Connect the mains adaptor jack plug into the "12V D" socket at the rear of the instrument.
2. Plug the other end of the mains adaptor into a wall socket.
3. Turn on the instrument by setting the switch to ON.

Amplification

The sound from the CD20/30 can either be heard through the built in speakers, through an external amplifier or through headphones.

The volume of the built in amplifier and the stereo headphones can be regulated using the [VOLUME] slider.

Built in speakers

These work when no headphones are connected to the headphone socket. They work independently from the outputs for external amplification.

External amplification

Connect an external amplifier to the LEFT and RIGHT outputs (use both for a stereo signal or just the RIGHT/M output for a mono signal).

To exclude the built in speakers and just use an external amplifier all you need to do is plug headphones (or even just a normal jack plug) into the PHONES socket.

Use the [VOLUME] slider to regulate the volume output from the CD20/30.

Stereo headphones

Connect stereo headphones to the PHONES socket. Plugging in a jack disactivates the built in speakers.

Pedals

Special Damper and Volume pedals, available as options from Generalmusic can be connected to the instrument.

Damper

Needs a "footswitch" type pedal.

Pressure on this pedal means that the notes of the Upper instrument part are held, like the sustain pedal on a traditional piano.

Volume

Needs a "continuous control" type pedal.

Movement of this pedal controls the overall instrument volume and serves the same purpose as the [VOLUME] slider.

Demo

Having made all the connections, you can now check whether sound comes out properly from the speakers, the headphones or from the external amplifier. Use the DEMO function for this.

1. Press the [DEMO] button to start the sequence of demo songs. During this phase it is not possible to use any other function on the instrument apart from the volume slider [VOLUME].
2. Press the [DEMO] button once more to interrupt the sequence and return to the instrument's normal functioning mode.

The keyboard and instrument parts

The keyboard

The CD20/30 has a 61 note (from C2 to C7) dynamic keyboard; this means that the harder you press the keys, the louder the sound.

The instrument parts

The CD20/30 can play up to six instrument parts, two on the keyboard (Upper e Lower) and four automatic accompaniments (Drums, Bass, Acc1, Acc2).

As well as this, using Midi, it is possible to make the CD20/30 play sixteen instrument parts (see the chapter on "Midi").

Upper and Lower

- SPLIT mode:

When the keyboard is turned on, Upper plays in the right hand section of the keyboard while Lower plays the left hand side.

- LAYER mode:

Upper e Lower can play together over the whole keyboard range.

- SINGLE mode:

Upper plays throughout the whole keyboard range while Lower does not play at all.

Programming the LAYER mode

1. Press the [SPLIT] button so that its led goes out.
2. Upper e Lower play together throughout the whole keyboard range.

Programming the SINGLE mode

1. If lit, press the [SPLIT] button so that its led goes out.
2. Press the [LOWER] button to turn off its led.
3. Upper plays throughout the whole keyboard range while Lower does not play at all.

Returning to the SPLIT mode

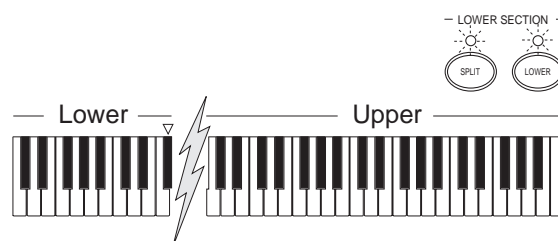
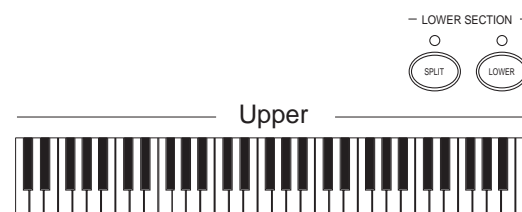
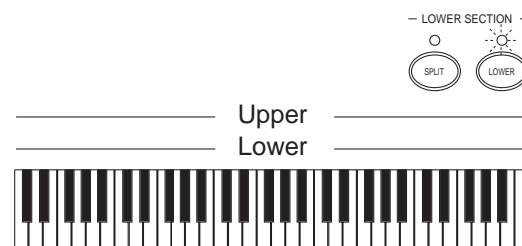
1. If they are unlit, press the [LOWER] and [SPLIT] buttons to make their leds come on.
2. Upper plays in the right hand keyboard section while Lower plays in the left hand side.

The point where the keyboard divides, the "split point", is indicated by a white triangle printed over the keyboard.

The split point can be changed using the procedure outlined in the next paragraph.

Changing the split point

1. Press and keep pressed the [SPLIT] button. On the keyboard press what is to be the highest note of the Lower part.



2. The split point has now been changed to the note just played.

Assigning Upper and Lower sounds

The voices of the CD20/30 are called "Sounds". The Sound list is printed on the control panel to the right of the display. It is possible to assign a particular Sound to the Upper and Lower instrument parts.

Assigning a Sound to the Upper part

1. If the Sound name is not flashing, press the [SOUNDS] button so that it does.
2. Use the keypad to key in the number which corresponds with the Sound you want. If the number is between 00 and 09, key in the zero too. If the number is between 100 and 127, press [SOUNDS] for the hundreds and then the remaining two numbers.
Example: To select "01/Piano1" key in [0][1]. To select "127/Gunshot" key in [SOUNDS][2][7].
3. On the display, under the word "Sounds", the name of the Sound selected will appear.

Assigning a Sound to the Lower part

1. If the Sound name is not flashing, press the [SOUNDS] button so that it does.
2. Press and keep down the [LOWER] button during the selection phase. The name of the Lower Sound will begin to

blink on the display.

3. Select the Sound as you did for the Upper part.

Drum, Bass, Acc1, Acc2

These instrument parts are used by the Style for automatic accompaniment. It is not possible to play them on the keyboard itself.

Regulating the part volumes

Regulate the volume of each part with the MIXER ON/OFF buttons. When a button is pressed, the display momentarily shows a graphic representation of the part volume.

The volumes of parts Acc1 and Acc2 are always paired together.

[<] decreases volume, [>] increases it.

When pressed together, a pair of buttons disactivate the corresponding part ("off"), or they reactivate it again ("on").

Automatic sustain in the Lower part

The notes played in the Lower part can be held even when your hand is taken away from the keys. This can be achieved using the Memory function, which is disactivated when the instrument is turned on. To activate this function press the [MEMORY] so that its led comes on. To disactivate it press the button so that the led goes out.

Styles

A style is an automatic accompaniment, which can be controlled by making up chords on the keyboard. The buttons in the MANUAL CONTROLS and AUTOMATIC STYLES sections allow you to start or stop the accompaniment, and to choose the way in which the Styles are executed.

A list of Styles is printed on the control panel, to the left of the display.

Choosing the Style

When the instrument is switched on, a Style is already loaded and ready to play. Use the following procedure to choose a different Style.

1. If the name of the Style is not flashing, press the [STYLE/SONG] button so that it does.
2. Use the keypad to key in the number corresponding to the Style required. If the number is between 00 and 09, key in the zero too.
Example: To choose "01/Rock2" key in [0][1].
3. On the display, under the heading "Styles", the name of the Style selected will appear.

Changing the tempo

The metronome tempo can be varied using the [TEMPO-DATA] buttons. The current tempo appears on the display, under the "Tempo" heading.

When changing the Style, if the [AUTOSET] led is on, the tempo is changed too, in keeping with the Style.

When pressed together, the [TEMPO-DATA] buttons default to a mid-tempo of 120.

Controlling the Style

In order to make all the accompaniment parts play together, use your left hand (in the left keyboard section under the split point) to play a note or chord. A single note will produce a major chord.

[START/STOP]

Used to start or stop a Style playing.

[SYNC START]

Makes the Style start as soon as a note in the left keyboard section is played, without having to press [START/STOP].

1. With a Style in the stop mode, press [SYNC START]. A quaver ($\frac{E}{}$) sign will appear on the display.
2. Play a note or a chord in the left hand keyboard section. The Style will automatically start playing.
4. To disactivate this function press [SYNC START] once more when the Style has stopped.

[INTRO/END]

An alternative to [START/STOP]. Starts or stops the Style playing, but with the addition of an intro or with a coda.

[TAP TEMPO]

Allows you to tap out the tempo you want the Style to play in.

1. With Style in the stop mode, tap the beat twice or more on the button. On the display under "Tempo", the tempo which has been tapped out will appear (in the form of a metronome beat).
2. Press [START/STOP]. The style will start in the time you tapped out.

[FILL BASIC]

Plays a fill (a one or two bar musical "passage"), or - if a Style variation is playing - plays the fill and then leads back to the basic version of the Style.

1. While the basic Style is playing, press [FILL BASIC].
2. The fill will cut in (a one or two bar musical "passage").
3. At the end of the fill the basic Style will continue to play.

alternatively

1. While the Style variation is playing (the [VARIATION] led is on), press [FILL BASIC].
2. A fill will start playing (a one or two bar musical "passage" which leads from the variation to the basic Style).
3. After the fill, the Style will revert to playing its basic version. (The [VARIATION] led goes out).

[FILL VAR]

Plays the fill and then recalls the Style variation.

1. While the basic Style is playing, press [FILL VAR].
2. A fill will start playing (a one or two bar "passage" which leads to the variation).
3. After the fill, the Style will play its basic version. (The [VARIATION] comes on).

[VARIATION]

Activates/disactivates the Style variation, that is to say a slightly different version of the basic Style.

The button led comes on and goes out automatically as buttons [FILL VAR] and [FILL BASIC] are pressed.

[ARRANGE]

Activates/disactivates the Bass, Acc1 and Acc2 instrument parts. When the led is on, all the automatic accompaniment parts can be heard. If the led is off, only the Drum part is available.

[AUTOSET]

Activates/disactivates the automatic changing of certain settings when the Style is changed.

If the led is on, when you change the Style then the tempo, the Upper and Lower Sounds, the part volumes and effects all change too. If the led is off, when the Style is changed these settings do not change.

Making up chords using the whole keyboard range (Freestyle)

Usually, the notes or chords which control the Style must be played in the left hand section of the keyboard, below the "split point". This part of the keyboard corresponds with the Lower instrument part; the Style chords, however, are recognized even if the keyboard is in the LAYER or SINGLE modes (and the Lower instrument part is disactivated).

It is possible to free chord recognition from the "split point" limitation using the Freestyle function. In this mode the chords for the Style can also be played by the right hand or using the whole keyboard range.

In the Freestyle mode, a chord of at least three notes must be formed - using either hand - so that the Style recognizes the chord. In this way you can freely play a melody, but when you want to change the Style chord, play a chord of at least three notes.

To enter this mode press the [FREESTYLE] button to turn the led on. To exit, press the button so the led goes out. Freestyle disactivates the [SPLIT] button and the Harmony function.

Stopping a Style on key release (Autostop)

Once the note or chord controlling the Style has been played, the automatic accompaniment parts continue to play until either [START/STOP] or [INTRO/END] are pressed.

Instead, the automatic accompaniment can be made to stop when your hand is taken away from the keyboard. In order for this to be possible, the Autostop function must be set to ON.

1. Press [MIDI]. The instrument is now in the MIDI mode.
2. Run forwards through the "pages" using [PAGE>], until you reach EXTRA FUNCTION—Autostop:

<p>EXTRA FUNCTION Autostop=0ff</p>

3. Turn the function ON using [TEMPO-DATA]. To disactivate the function again, use the [TEMPO-DATA] buttons once more.
4. Press the two [ESC] buttons again to exit from the MIDI mode. The settings remain in memory even when the instrument has been switched off.

Changing how the bass part plays (Bass Follow)

Normally, the accompanying Bass part follows exactly what is played on the keyboard. This happens because the function Bass Follow is default set to ON. If you want the Bass part to follow only the Style program ignoring the “foreign” notes played on the keyboard, set the Bass Follow function to OFF.

1. Press [MIDI]. The instrument is now in the MIDI mode.

2. Run forwards through the “pages” using [PAGE>], until you reach “EXTRA FUNCTION—Bass Follow”:

EXTRA FUNCTION Bass Follow=On

3. Set the function to OFF using [TEMPO-DATA]. To reactivate the function, press [TEMPO-DATA] once again.
4. Exit the MIDI mode by pressing the two [ESC] buttons together. The settings are stored to memory even when the instrument is switched off.

Harmony, Digital Multi-Effects, Master Tuning

Harmony

This function allows a melody played in the right hand to be harmonized with the chords played in the left hand.

Activating the Harmony function

1. Press [HARMONY]. (Its led comes on).
2. The led of the [SPLIT] button comes on automatically. The Freestyle function is automatically set to OFF.

Now the keyboard is divided into two parts: Upper where the melody is played and Lower where the chords are played.

It does not matter whether the Lower instrument part is active or not: the important thing is that the keyboard is divided in this way.

How to use the Harmony function

Play a melody with your right hand, while at the same time playing a note or the notes of a chord with the left hand. The left hand chord harmonizes with the right hand melody.

Turning off the Harmony function

Press [HARMONY]. (Its led goes out).

Digital Multi-Effects

The CD20/30 incorporates two digital effects processors, each one being able to produce a separate effect:

- modulation effects, which add the classic chorus, phaser, flanger, ensemble or rotary effects ([EFF 1] button);
- reverb/delay, which give depth to the sound ([EFF 2] button).

Each Style has its own two effects which normally change when the Style is changed.

[EFF 1] and [EFF 2] in the [DIGITAL MULTI EFFECTS] section turn the effects on and off. When the led is on it means that the effects are active, if the led is off they are not active. The [<] and [>] buttons in the same section select one of the effects made available by the processor (16 each). The effects change automatically when the Style is changed if the [AUTOSET] led is on.

Master Tuning

Alters the CD20/30 tuning to suit the tunings of other instruments in the group. It is made up of two parts:

- The TRANSPOSER changes tuning by semitones;
- TUNE alters the tuning by 1/64 semitone degrees (this is useful for tuning to an acoustic instrument which is slightly out of tune).

Transposer

1. Press [<] to lower intonation by a semitone, or [>] to raise it by a semitone.
The minimum value is -6 (semitones), the maximum +6 (semitones).
2. Each time a TRANSPOSER button is pressed the number of semitones is shown on the display.
3. Press both buttons together to bring tuning back to 0 (standard).

Tune

1. Press [<] to lower intonation by 1/64 of a semitone, or [>] to raise it by 1/64 of a semitone.
The minimum value is -48/64, maximum is +48/64.
2. Each time a TUNE button is pressed, the intonation value appears on the display.
3. Press both buttons together to bring tuning back to 0 (standard).

The Touch Keyboard

On electronic keyboards the standard term for drums is drumkit, and each note of the keyboard is assigned to a different percussive sound. The CD20/30 has 8 drumkits, and each Style calls up the most suitable drumkit for its Drum part.

Along with all the traditional percussion sounds, the CD20/30

drumkits also contain “special” sounds, called samples.

The 13 large DRUMS & SAMPLES PADS buttons are called pads, and play percussive sounds or samples.

The pads play sounds which are in the drumkit of the Drum instrument part, or sounds from the drumkit assigned as Sound to the Upper instrument part.

How to select Sounds and Styles using the [PAGE] buttons

Apart from the standard method, Sound and Styles can be chosen using [PAGE <] and [PAGE >] on the keypad.

Sound selection

1. If the Sound name is not flashing on the display then press [SOUNDS] to make it do so.
2. If you want to assign the Sound to the Lower part, press and hold the [LOWER] button.

3. Scroll backwards and forwards through the Sound list using [PAGE <] or [PAGE >].

Style selection

1. If the Style name is not flashing on the display then press [STYLE/SONG] to make it do so.
2. Scroll backwards and forwards through the Style list using [PAGE <] or [PAGE >].

The two sound banks

The CD20/30 has two sound banks which can be assigned to the Upper and Lower parts. The sounds contained in the first bank are printed on the control panel. A list of the sounds in the second bank can be found in the appendix of this manual.

The first and second banks contain different versions of the same sound. For example, if in the first bank sound 00 is GrandPiano, then sound 00 will be a piano sound in the second bank too.

The second sound bank is compatible with General MIDI standard sounds (see the chapter on “Midi”). The first bank however, substitutes the “Percussion” family with the “Drums” family, so that the drumkits can also be played by hand on the keyboard, assigning them to the Upper and Lower parts, as if they were normal Sounds.

Selecting a sound bank

1. Make sure that the Sound name is flashing on the display. If it is not, then press [SOUNDS] to make it do so.
2. Press the two [BANK 1/2] buttons together on the keypad.
3. The display will show the name of the bank you have selected (“Sound Bank 1” or “Sound Bank 2”):

SOUND BANK 1

SOUND BANK 2

4. After you have selected the bank, select the sound required. The sound bank selected will remain active until the other bank is chosen (followed by a sound selection).

Songs

The CD20/30 has a built in multitrack sequencer on which you can record a live Song performance or data fed to the CD20/30 at the MIDI IN port.

The CD20/30 can store up to four Songs. The Songs must have been recorded or (on the CD30) loaded from disk as ".SNG" or ".ALL" files.

There are two types of Song:

- **SongStyle**, which use automatic accompaniment.
- **RealSong**, which do not use automatic accompaniment so the tracks can be used freely. With this type of Song the Drum track, for example, must be played out completely by hand as the rhythmic cycles provided by a Style are not available.

The name means: "A Song with RealTime tracks" (real time is another way of saying "live").

Selecting and playing back a Song

How to select a Song

1. If the Style name is not flashing on the display, press [STYLE/SONG] to make it do so.
2. Use the keypad to key in the number of the Song required. The Song numbers are from 96 to 99.
3. The name of the Song selected will appear on the display above the word "Styles".

Playing back a Song

1. Press [START/STOP] to start the Song. If the Song is empty, nothing will happen.
2. During playback it is possible to adjust the tempo using the [TEMPO-DATA] buttons.
3. Press [START/STOP] to stop the Song.
4. [SYNC START] acts as a continuation command. Press this button to restart playback from where it left off.

Playing with the Song accompaniment

In order to play the Upper and/or Lower parts on the keyboard while the Song is playing you need to turn off the led of the corresponding track. When the led of one of the tracks is on, you cannot play that part live.

For example, the following procedure must be followed to play the Upper part live while the Song is playing.

1. With Song selected, whether in playback or not, press [UPPER] in the STYLE/SONG RECORD section to turn its led off.
2. The upper part can now be played live. To play using the whole keyboard range deactivate the [SPLIT] led.
3. To restore the track to the Song, make the [UPPER] led come back on in the STYLE/SONG RECORD section.

The CHORDS track cannot be deactivated. Both in SongStyle and RealSong only the Upper and Lower parts can be played live.

The track buttons in SongStyle

SongStyle is made up of three instrumental tracks: UPPER, LOWER, and CHORD (for the automatic accompaniment parts).

The track buttons are found in the STYLE/SONG RECORD section. The Song names are those printed in white (the names in blue are for Style recording).

[CHORDS]

The tracks where the chords used for automatic accompaniment are recorded (Drum, Bass, Acc1 and Acc2 parts).

Led off: the track is empty. Led flashing: the track is recording. Led on: the track has been recorded.

[LOWER]

Lower track.

Led off: the track is empty. Led flashing: the track is recording. Led on: the track has been recorded.

[UPPER]

Upper track.

Led off: the track is empty. Led flashing: the track is recording. Led on: the track has been recorded.

The track buttons in RealSong

RealSong is different from SongStyle in that it has six tracks to play on freely, with no automatic accompaniment.

[CHORDS]

The Drum track and Pads button.

[LOWER]

The Bass and Lower tracks button.

If the led is on it means that the Lower track has been recorded.

[UPPER]

The Acc1, Acc2 and Upper tracks button.

If the led is on it means that the Upper track has been recorded.

The special tracks

As well as the instrumental tracks, Song also records the Common Channel, Tempo and Pads special tracks. To record these

tracks no buttons need be pressed (they are “ghost tracks” which are recorded automatically).

Special tracks	
Common Channel	- SongStyle: Style controls: Style selected, activation/disactivation of the Style control buttons. - RealSong and SongStyle: Effects activation/disactivation and selection.
Tempo	Metronome tempo.
Pads	- SongStyle: Notes played on the Touch Keyboard.

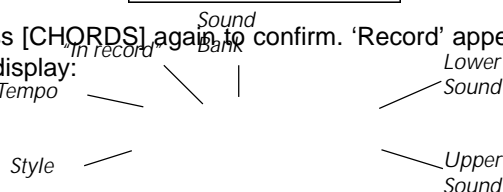
How to record a SongStyle

Preparation (before recording)

1. Press [CHORDS] to enter the “record” mode.
2. A choice between RealSong (“REALSONG”) and SongStyle (“SONG”) will appear on the display. Use the [PAGE>] button to select the SongStyle (SONG flashes).

SONG SEL. MODE
RealSong Song

3. Press [CHORDS] again to confirm. ‘Record’ appears on the display:



100RBk1 STRING
58POP_3 GRAND

4. The leds of the [CHORDS], [LOWER] and [UPPER] buttons flash: the three tracks can be recorded simultaneously.

If you do not want to record a track, press the corresponding button repeatedly to make its led go out.

5. The Style name flashes on the display: a different Style can be chosen. Otherwise, you start recording with the Style already set.
6. If the [AUTASET] led is off you can...
 - select the initial Sounds for the Upper and Lower parts (otherwise the Style will select the Sounds).
 - vary the initial tempo before starting to record.
 - regulate the initial volume of the Upper and Lower tracks.
 - select, activate or disactivate the effects (this initial state can be changed during recording).
7. The keyboard split point can be modified, activated or disactivated.
8. The Lower track can be activated/disactivated. To do this, use the Lower track button (in which case the [LOWER] button in the UTILITY section cannot be used).

Recording

1. Press [START/STOP] or [INTRO/END] to start recording.
2. During recording you can change Style, Sound, Tempo and Volume, use the Style controls, use the Damper pedal, activate/disactivate and change the effects.
3. Use [START/STOP] or [INTRO/END] to stop recording.
4. The leds of the [CHORDS], [UPPER] and [LOWER] tracks should be on. If they are, then the corresponding tracks have been recorded.

To exit the “record” mode

Press the two [ESC] buttons together.

“Overwriting”

Other notes can be added over the tracks already recorded.

1. Press [CHORDS] to put the Song into the “record mode”.
2. Press the button for the track to be recorded so that its led begins to flash. The UPPER, LOWER and PADS tracks can all be recorded over. The CHORD track cannot be overwritten.

The special Common Channel and Tempo tracks are not recorded again. To re-record them they must first be erased.

3. Start recording using [START/STOP].
4. Add notes to the Upper and/or Lower tracks.
5. Use [START/STOP] to stop recording.
6. Exit the “record” mode by pressing the two [ESC] buttons together.

How to record a RealSong

Preparation (before recording)

1. Press [CHORDS] to enter the “record” mode.
2. A choice between RealSong and SongStyle will appear on the display. Confirm RealSong by pressing [CHORDS] again. The ‘record’ display appears:

Track in record

Sound of the track in record

120 IR Bk1 96Song1
Drum = DRMCD

3. If you want to change the time signature and the RealSong length, press [COPY]:

MODE:
Time= 4/4 Len=∞

Use [PAGE] to pass from one parameter to another. Use the [TEMPO-DATA] buttons to change the parameters. The “_” symbol means that the RealSong has no length

limitation.

- Only one track at a time can be recorded in RealSong, so only one track button will flash at a time.

Press the button which corresponds with the track to be recorded repeatedly until its track name appears on the display.

- Select the Sound you want to assign to that track. Only drumkit sounds can be assigned to the Drum track.
- Adjust the tempo before starting to record. The new value will become the initial tempo for the Song.
- Activate or deactivate the effects; select the effects required.
- Set the initial track volume using the buttons in the MIXER section.
- The split point cannot be changed, because the recording is made with no keyboard range limits, one track at a time.

Recording

- Press [START/STOP] to start recording.
- During recording you can change Sound, Tempo and Volume, use the Damper pedal, activate/deactivate and change the Effects.
- Use [START/STOP] to stop recording.
- The led of the recorded track comes on. An asterisk (*) appears next to the track name:

120 IR Bk1 96Song1
*Drum = DRUMCD

- Select another track and continue recording. If you overdub a track which is already recorded, the new notes are added to the track. Use the Erase function, described later, to cancel any notes which have been added in error.

To exit the "record" mode

Press the two [ESC] buttons together.

The Song name

- If necessary, press [CHORDS] to put the song into the "record" mode.
- Press [CLEAR] to call up the edit and erase menu.
- Press the [NAME] button (on the keypad) to enter the Song name or edit an existing name.
- Use the keypad to key in the letters/numbers (each key has three characters, which appear one after the other in cycles each time the key is pressed).
- Press [PAGE>] to move to the next space. Press [PAGE<] to move back a space.
- When you have finished, press both [ESC] buttons to exit the "record" mode and confirm the Song name.

Changes and corrections

SongStyle and RealSong can be modified by re-entering the record mode and using the functions called up by the [CLEAR] and [QUANTIZE] buttons.

Editing the Sound and initial volume

- Adjust the track volumes (using the buttons in the MIXER section).
- Press [CHORDS] to return to the "record" mode. The flashing |R appears on the display.
- Select the track where you want to change the Sound.
- Select a different sound for that track.
- Press [START/STOP] to start recording.
- Immediately after the initial "count in", stop the recording using [START/STOP].
- Press a different track button if you want to edit another track. Alternatively, press [ESC] to exit the "record" mode.

How to erase parts (CLEAR)

- Press [CHORDS] to return to the record mode. The flashing |R appears on the display.
- Press [CLEAR]. The menu of edit and erase operations appears:

SELECT:
Clear Erase Edit

- Press [CLEAR] to select "Clear". The CLEAR function appears on the display:

CLEAR: 96 Drum
* press clear *

- Use [TEMPO-DATA] to select the track you want to cancel.
In SongStyle you can choose Chord, Lower, Upper, Common, Tempo, and Pads tracks. In RealSong you can choose Drum, Bass, Acc1, Acc2, Lower, Upper, Common, Tempo (use the ERASE function on the Drum part to cancel the pads). "All" erases the whole Song.
- Press [CLEAR] to confirm the track selection.
- The question "Sure?" appears on the display. Press [CLEAR] to confirm, or the two [ESC] buttons to cancel the erase procedure. Alternatively, press one of the track buttons to cancel the procedure and return to "record".

Erasing a note or a percussive instrument (ERASE)

- Press [CHORDS] to return to the record mode. The flashing |R appears on the display.
- Press [CLEAR]. The menu of edit and erase operations appears:

SELECT:
Clear Erase Edit

- Select "Erase" with the [PAGE>] button.
- Press [CLEAR] to enter the ERASE function:

ERASE: 96 Drum
* press start *

- Select the track on which the note is to be erased using [TEMPO-DATA].
- Press [START/STOP] to start Song playback.

- Press the note you want to erase just before it is about to be played. If you are erasing a percussion instrument, hold down the note for the whole length of the Song.
- Use [START/STOP] to stop the Song.
- Select a different track with one of the track buttons. Otherwise, exit the "record" mode by pressing the two [ESC] buttons together.

Editing Program Changes after the initial one (EDIT—Program Change)

Note: Program Change is the code used by electronic musical instruments to select a sound. The numbers in the Sound list give every Sound a Program Change number.

- Press [CHORDS] to return to the record mode. The flashing |R appears on the display.
- Press [CLEAR]. The menu of edit and erase operations appears:

SELECT:
Clear Erase Edit

- Select "Edit" with the [PAGE>] button.
- Press [CLEAR] to get to the "Program Change" page of the EDIT function:

PROGRAM CHANGE:
Drum

- Use [TEMPO-DATA] to select the track where the Program Changes are that you want to see.
- Press [CLEAR] to show the first Program Change found in the track:

PROGRAM CHANGE:
Bank=1 Sound= 31

Note: The Program Change at the beginning of the track cannot be shown or modified with this function.

- Use [PAGE] to move backwards and forwards between "Bank" and "Sound".
The Bank can only be modified if it has already been changed at least once during recording.
- Select the Sounds by either using [TEMPO-DATA] or keying in the Program Change number on the keypad.
- Press [CLEAR] to show the next Program Change. Repeat the same procedure for this Program Change. Continue to select and edit the other Program Changes.
- After you have seen (and eventually modified) all the Program Changes, if you press [CLEAR] the track name will appear again on the display.
- Select another track and repeat the changes.
- Press the two [ESC] buttons to exit from the "record" mode.

Deleting Volume messages (EDIT—ClearVolume)

- Press [CHORDS] to return to the record mode. The flashing |R appears on the display.
- Press [CLEAR]. The menu of edit and erase operations appears:

SELECT:
Clear Erase Edit

- Select "Edit" with the [PAGE>] button.
- Press [CLEAR] to call up the "Program Change" page of the EDIT function:

PROGRAM CHANGE:
Drum

- Press [PAGE>] to call up the "Clear Volume" page of the EDIT function:

CLEAR VOLUME:
Drum

- Use [TEMPO-DATA] to select the track where the Volume messages are to be erased.
In SongStyle you can select the Upper and Lower tracks. In RealSong Drum, Bass, Acc1, Acc2, Lower and Upper are available. "All" selects all the tracks.
- Press [CLEAR] to confirm the track selection.
- The question "Are you sure?" appears on the display. Press [CLEAR] to cancel the Volume messages (except for the initial message, which cannot be erased), or alternatively the two [ESC] buttons to cancel the procedure.

Correcting rhythmic errors (QUANTIZE)

The quantize function moves the beginning of the notes played "out of time", so that they fall into a correct rhythmic timing.

- Press [CHORDS] to enter the record mode (the flashing |R appears on the display).
- Press [QUANTIZE]:

QUANTIZ: Song1
Upper 96

- Use [PAGE] to move from the track name in edit to the quantize value.
In SongStyle the Upper, Lower and Pads tracks can all be quantized. In RealSong you can quantize all the instrumental tracks.
- Select the track to be quantized and change the quantize value with the [TEMPO-DATA] buttons.
The following table shows the quantize values and their respective musical notations:

Quantize value	Musical notation
96	(no quantize)
48	r triplet
32	r
24	x triplet
16	x
12	e triplet
8	e

- Press [START/STOP] to hear the effect of the quantize. If it is not what you want, stop the track and choose a different quantize value.
- Press [QUANTIZE] to confirm the quantize value for the chosen part. The question "Sure?" appears.
- Press [QUANTIZE] to confirm the operation, or the [ESC] buttons to cancel. Alternatively press one of the track buttons to get back to "record".

How to program a Style

The Style numbers 88-95, belonging to the "Prog" group, are programmable. Once programmed, these Styles remain in memory even when the instrument has been switched off. On the CD30 it is possible to save them to disk for future use.

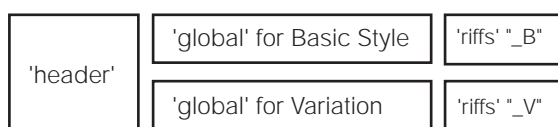
How a Style is made up

A Style consists of a ("header"), two global settings ("global") and a series of "tables" ("riff") which are called up by the chord played on the keyboard.

- The header contains information (valid for the whole Style) on tempo, bar subdivision (time signature), and the state and selection of effects.
- Each global (one for the basic Style and one for the variation) contains information on sounds and initial volume for each instrument part (including Upper e Lower).
- Each riff contains the music played by each instrument part in the automatic accompaniment for each type of chord. Here is a list of the riffs:

Symbol	Meaning
INTRO	Introduction
MAJ_B	Major Basic
MIN_B	Minor Basic
7th_B	Seventh Basic
FILL_B	Fill Basic
MAJ_V	Major Variation
MIN_V	Minor Variation
7th_V	Seventh Variation
FILL_V	Fill Variation
END	Ending

A Style structure can be shown in this way:



The track buttons

There are four automatic accompaniment tracks: Drum, Bass, Acc1 and Acc2. The track buttons are found in the STYLE/ SONG RECORD section. The Style names are those printed in blue.

[DRUM]

Drum track.

Led off: track empty. Led flashing: track recording. Led on: track has been recorded.

[BASS]

Bass track.

Led off: track empty. Led flashing: track recording. Led on: track has been recorded.

[ACC1/2]

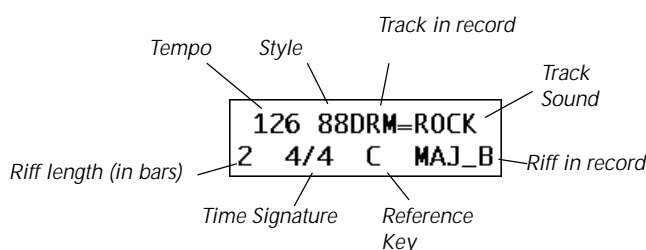
The Acc1 and Acc2 button.

Led off: track empty. Led flashing: track recording. Led on: track Acc1 and/or Acc2 have been recorded.

How to record a Style

Preparation (before recording)

1. Select one of the Prog. Styles (88-95). If nothing has been recorded yet, the Style contains a copy of one of the Styles which cannot be programmed, this will be erased when you start the recording procedure.
2. Press [DRUM] to enter the "record" mode. The copy of the non-programmable Style will be erased.
The 'record' display appears:



3. Select the track to be recorded on by pressing the corresponding button. Press [ACC1/2] repeatedly to call up tracks Acc1 or Acc2.
4. Assign the sound you want to the track (the Drum track only accepts drumkit sounds). Select the sound using the keypad.
5. Adjust the track volume using the MIXER group buttons.
6. Select, activate or deactivate the effects.
7. Select the riff to be recorded, the key signature, time signature, riff length and tempo according to the instructions which follow.
Move from one parameter to another using the [PAGE] buttons. Change the parameters using [TEMPO-DATA].
8. Selecting one of the riffs to record. Choose one of the riffs from the table shown earlier. Usually all you need to do is record the riffs as 7th_B, 7th_V, INTRO, END, FILL_B, FILL_V.
9. Reference key. This note corresponds to the chord that should be formed during play to achieve exactly the sequence recorded.
10. Time Signature. The bar subdivision. As a basic rhythm, this is valid for the whole Style (it is recorded in the header). Once it has been set for a particular riff, it is no longer possible to change it for other riffs.

11. Riff length. The number of bars that the riff is made up of.
12. Tempo. The metronome beat valid for the whole Style (it is recorded in the header), which can be changed later.

How to record

1. Press [START/STOP] to enter the record mode. You will hear a “count in” during which it is not possible to record.
2. Record on the track. Recording takes place in cycles, so once all the bars have been written, recording starts over again (Overwriting).
3. Press [START/STOP] when you want to stop recording.
4. Select a new track and repeat the same recording procedure.
5. Select a different riff and repeat the procedure on different tracks.
6. If necessary, make use of the correction functions described later. All you need to do is press one of the [QUANTIZE], [CLEAR] or [COPY] buttons.

Exiting the “record” mode

Press the two [ESC] buttons together.

Sound and volume settings for the Upper and Lower parts

For basic Styles and their variations separately, it is possible to program the sounds and volumes of the Upper and Lower parts.

Programming these two parts is limited to an “instantaneous recording”, as there are no sequences or notes to record.

When a Style is played, the initial regulation of these parts are called up by the [VARIATION] button being activated or deactivated, (as long as the [AUTOSET] led is on).

- Upper and Lower for the basic Style
 1. Exit the “record” mode.
 2. Assign the sounds you want to Upper and Lower in the normal way. Adjust the part volumes.
 3. Press [DRUM] to enter the “record” mode.
 4. Press [START/STOP] to start recording.
 5. After the “count in” stop recording by pressing [START/STOP].
 6. Exit the “record” mode.
- Upper and Lower for the variation
 1. Exit the “record” mode.
 2. Assign the sounds you want to the parts in the normal way. Adjust the part volumes.
 3. Press [DRUM] to enter the “record” mode.
 4. Select one of the variation riffs. The [VARIATION] led comes on.
 5. Press [START/STOP] to start recording.
 6. After the “count in” stop recording by pressing [START/STOP].
 7. Exit the “record” mode.

Style names

1. If necessary, press [DRUM] to put the Style in the “record” mode.

2. Press [CLEAR] to call up the edit and erase menu.
3. Press [NAME] (on the keypad) to write in the Style name, or edit an already existing one.
4. Use the keypad to key in the letters/numbers (each key has three characters, which appear one after the other in cycles each time the key is pressed).
5. Press [PAGE>] to move forwards one space. Press [PAGE<] to go back one space.
6. When you have finished, press [ESC] to exit the “record” mode and confirm the Style name.

Modifications and corrections

The programmed Style can be modified by re-entering the “record” mode and using the [QUANTIZE], [CLEAR], and [COPY] buttons.

Editing the Sound and initial Volume settings

1. Change the sound and volume settings in the Upper and Lower parts by following the procedure described in the “Sound and volume settings for the Upper and Lower parts”.
2. Adjust the automatic accompaniment track volume with the MIXER buttons.
3. Press [DRUM] to return to the “record” mode.
4. Use the track buttons to select the track where the sound is to be modified.
5. Select a different sound for the track.
6. Press [START/STOP] to start recording.
7. Immediately after the initial “count in” press [START/STOP] to stop recording.
8. Press a different track button if you want to edit the sound on another track. Alternatively, press the two [ESC] buttons to exit the “record” mode.

How to edit the starting tempo and initial effects

1. Put the Style into the ‘record’ mode.
2. Change, activate or deactivate the effects.
3. Adjust the initial tempo.
4. Press [START/STOP] to start recording.
5. Immediately after the initial “count in”, stop the recording with [START/STOP].

Erasing parts (CLEAR)

1. Press [DRUM] to return to the “record” mode.
2. Press [CLEAR]. The menu listing the edit and erase operations appears on the display:

SELECT: Clear Erase Edit

3. Press [CLEAR] to select “Clear”. The CLEAR function appears on the display:

CLEAR:	88HOUSE
Riff	Track
MAJ_B	Drum

4. Move backwards and forwards between riff and track using the [PAGE] buttons. Change the parameters with [TEMPO-DATA].
5. Select the riff. "All" erases the whole Style.
6. Select the track. "All" erases the whole riff.
7. Press [CLEAR] to confirm the track selection.
8. The question "Sure?" appears on the display. Press [CLEAR] to confirm, or the two [ESC] buttons to cancel the erase procedure. Alternatively press another track button to return to the "record" mode.

How to erase a note or a percussion instrument (ERASE)

1. Press [DRUM] to return to the record mode.
2. Press [CLEAR]. The menu listing the edit and erase functions appears on the display:

SELECT:
Clear Erase Edit

3. Select "Erase" using the [PAGE>] button.
4. Press [CLEAR] to call up the ERASE function:

ERASE:	88HOUSE
Riff	Track
MAJ_B	Drum

5. Move backwards and forwards between the riff and track using the [PAGE] buttons. Use [TEMPO-DATA] to edit the parameters.
6. Press [START/STOP] to start playing the riff.
7. Press the note to be cancelled just before it is about to be played. If you are erasing a percussion instrument, keep the note held down for the whole of the riff.
8. Use [START/STOP] to stop play.
9. Select a different riff and/or a different track. Return to the "record" mode by pressing one of the track buttons. Alternatively, exit from the "record" mode using the [ESC] buttons.

Editing Program Changes after the initial one (EDIT—Program Change)

While programming a Style it is possible to insert a sound change into a track, indicated as a Program Change, to substitute, for example, a SlapBass in a riff with a PickBass. The Program Change can be inserted during or (preferably) after the notes have been recorded, and can then be edited with this function.

1. Press [DRUM] to return to the "record" mode.
2. Press [CLEAR]. The menu showing the edit and erase operations appears on the display:

SELECT:
Clear Erase Edit

3. Select "Edit" using the [PAGE>] button.
4. Press [CLEAR] to call up the "Program Change" page of the EDIT function:

PROGRAM CHANGE:
MAJ_B Drum

5. Use [TEMPO-DATA] to select the track where the Program Changes are that you want to see.
6. Press [CLEAR] to show the first Program Change found in the track:

PROGRAM CHANGE:
Bank=1 Sound= 31

Note: The Program Change at the beginning of the riff (contained in the global) cannot be shown and edited with this function.

7. Use the [PAGE] buttons to move backwards and forwards between "Bank" and "Sound".
The Bank can only be edited if it has already been changed at least once during recording.
8. Select the Sound you want using [TEMPO-DATA] or by keying in its Program Change number on the keypad.
9. Press [CLEAR] in order to see the next Program Change. Repeat the same procedure for this Program Change. Continue to select and edit the Program Changes.
10. After having seen (and eventually edited) all the Program Changes, if you press [CLEAR], the track name will appear on the display again.
11. Select another track and repeat the editing procedure.
12. Press the two [ESC] to exit the "record" mode.

Erasing Volume messages (EDIT—ClearVolume)

1. Press [DRUM] to return to the "record" mode.
2. Press [CLEAR]. The menu of editing and erase operations appears on the display:

SELECT:
Clear Erase Edit

3. Select "Edit" using [PAGE>].
4. Press [CLEAR] to call up the "Program Change" page of the EDIT function.

PROGRAM CHANGE:
MAJ_B Drum

5. Press [PAGE>] to call up the "Clear Volume" page of the EDIT function:

CLEAR VOLUME:
MAJ_B Drum

6. Use the [PAGE] buttons to move backwards and forwards between riff and track. Use the [TEMPO-DATA] buttons to edit the parameters.
7. Press [CLEAR] to confirm the track selection.
8. The display shows the question "Are you sure?". Press [CLEAR] to erase the Volume messages (apart from the initial one, which cannot be erased), or the two [ESC] buttons to cancel the procedure. Alternatively press one of the track buttons to return to the "record" mode.

How to correct rhythmical errors (QUANTIZE)

The quantize function shifts the beginning of notes played "out of time", so that they fall into a precise rhythmic timing.

1. Press [DRUM] to enter the "record" mode.
2. Press [QUANTIZE]:

Riff / Track / Quantize value

QUANTIZ: 88HOUSE
MAJ_B Drum 96

3. Use the [PAGE] buttons to move through the parameters. Edit the parameters with the [TEMPO-DATA] buttons.
4. Select the riff. Select the track you want to quantize and choose the quantize value.
A table showing the quantize values and their equivalent musical notation is shown in the chapter on Song editing.
5. Press [START/STOP] to hear the result of quantizing. If you are not happy with it, stop play and choose a different quantize value.
6. Press [QUANTIZE] to confirm the quantize value for that particular track. The question "Sure?" will appear.
7. Press [QUANTIZE] to confirm the operation, or the [ESC] buttons to cancel. Alternatively, press one of the track buttons to return to the "record" mode.

Copying one complete Style into another

This operation erases any riffs which may have been recorded in the Style being edited and makes a complete copy of a different Style.

Note: The source (original) Style may not have all its riffs recorded.

1. Select the destination Style where the copy is to be recorded.
2. Press [DRUM] to enter the "record" mode.
3. Press [COPY]:

COPY: 88HOUSE + 88
ALL

4. Use the keypad to key in the name of the source Style. "ALL" reminds you that all the riffs will be copied (that is to say, the whole Style).
5. Press [COPY] to confirm the selection. The confirmation request: "Copy/Sure?" will appear. Press [COPY] again to confirm the operation.

Copying a riff from a different Style

1. Select the destination Style where the copy is to be recorded.
2. Press [DRUM] to enter the "record" mode.
3. Press [COPY].
4. Use the keypad to key in the name of the source Style.
5. Select a different source riff using the [TEMPO-DATA] buttons:

COPY: 33SAMBA + 88
INTRO + MAJ_B

6. Use the [PAGE] buttons to move backwards and forwards between the source riff to be copied and the destination riff. Select a riff with the [TEMPO-DATA] buttons.
7. Press [COPY] to confirm the selection. The confirmation request: "Copy/Sure?" will appear. Press [COPY] again to confirm the operation.

Copying a riff within the same Style

1. Press [DRUM] to enter the "record" mode.
2. Press [COPY].
3. The option "ALL" is selected by default, this copies the whole Style onto itself. Use the [TEMPO-DATA] buttons to select a different riff:

COPY: 88HOUSE + 88
MAJ_B + MAJ_V

4. Use the [PAGE] buttons to move backwards and forwards between the source riff to be copied and the destination riff. Select a riff with the [TEMPO-DATA] buttons.
5. Press [COPY] to confirm the selection. The confirmation request: "Copy/Sure?" will appear. Press [COPY] again to confirm the operation.

Suggestions

As recording a Style is a rather complex procedure, at least at the beginning it may be helpful to follow these recommendations in order to obtain satisfactory results straight away:

- Edit an existing Style after having copied it into a Prog. Style. Working from tracks which are already there is much easier than creating from nothing, and helps you understand how the musicians who created the CD20/30 worked.
- Starting from scratch, be content with recording just some of the essential parts, for example Drum and Bass or Drum and Acc1. When you have achieved a satisfactory result, then you can carry on and record all the tracks.
- Record at a very slow tempo, bringing it up to speed only on completion.
- Make use of the automatic correction functions; at first it may seem difficult to use them, but later you will regard them as fundamental means necessary for your compositions.

MIDI

What is Midi?

Midi is a system for communicating between electronic instruments. With Midi it is possible to:

- use the CD20/30 keyboard to control another musical instrument;
- use another device (keyboard, sequencer, computer) to control the Sounds and Styles on the CD20/30;
- connect the CD20/30 to a sequencer or a computer (this covers both the previous cases), for programming the Songs or Styles externally.

Midi Connections

The fundamental rules of Midi connections:

- In technical jargon, an instrument which controls another instrument is called master, while the instrument which is being controlled is called the slave.
- Connect the MIDI OUT on the master instrument to the MIDI IN on the slave instrument using a standard Midi lead.
- To program Songs on an external sequencer or computer, connect the MIDI OUT on the CD20/30 to MIDI IN on the sequencer/computer; the MIDI OUT on the sequencer/computer to the MIDI IN on the CD20/30.
- Never connect two Midi ports on the same instrument together.

The MIDI THRU port

The MIDI THRU port allows a series of musical slave instruments to be "chained" together:



In the example, "slave 1" and "slave 2" are controlled by the "master". "Slave 2" is not receiving data from "slave 1", which is only acting as a bridge.

The MIDI mode structure

MIDI mode programming is divided into sections; some sections are subdivided into pages.

To pass from one section to another or from one page to another use the [PAGE] key. To call up a page of a section press the [MIDI] key while the name of the section is displayed. To exit from the page and return to the previous section press the [ESC] key.

Here is a list of the sections:

Sections	Structure and contents
Channel selection	Pages. Assigns Midi channels to the instrument parts and to the Common Channel.
MIDI:Clock	Selects Midi Clock synchronization (Internal/External).
Local On/Off	Pages. Programs Local Off (disactivates the individual parts' sound generators).

MIDI: Filters	Pages for Input and Output filters. Programs the Midi filters (to exclude certain Midi communication messages).
MIDI: Dump	Archives the contents of an external sequencer's memory.
MIDI: Dynamic Keyboard	Activates/disactivates keyboard dynamics.
MIDI: GeneralMidi On/Off	Activates/disactivates General Midi compatibility.
MIDI: Slave Keyb-Tracks	Determines the instrument's multitimbral Midi status (two or six parts).
MIDI: Slave Keyb-Start/Stop	Activates/disactivates the response of the CD20/30 to the Midi Start/Stop message.
EXTRA FUNCT -BassFollow	(Dealt with in the chapter on Style use).
EXTRA FUNCT- Autostop	(Dealt with in the chapter on Style use).

How to exit from MIDI mode

To exit from [MIDI] prese the [ESC] keys.

Instrument parts and Midi channels

Each of the six instrument parts of the CD20/30 can be assigned to a different Midi channel, to be chosen from the 16 available (1-16). The factory settings are as follows:

Instrument part	Midi channel
Drum	10
Bass	2
Acc1	3
Acc2	6
Lower	4
Upper	5

The corresponding parts must be assigned to the same Midi channels on other Midi units which are connected. Here are some practical examples, with the CD20/30 set up as in the table above:

- If the CD20/30 is controlling an expander with only its Upper part extending throughout the whole keyboard range, the expander should be set to receive on Midi channel 5.
- If the CD20/30 is controlling a multitimbral expander, that is, with more than one instrument part, then the instrument parts of the expander should be assigned to the same channels as the CD20/30: the Drum part to channel 10, the Bass to channel 2, and so on...
- If the CD20/30 is being controlled by another instrument (master), then the parts on the master must be set to the CD20/30 channels, or alternatively, set the CD20/30 parts to those of the master.

The special Common Channel parts

Apart from the 6 instrument parts, the CD20/30 receives and sends Style data on a special channel (Style number, tempo, activation/disactivation of the Style control keys).

The special part, called the Common Channel, must also be assigned to a Midi channel between 1-16. The factory setting is channel 16. An instrument receiving or sending Style commands to or from the CD20/30 needs to do so using this channel.

How to assign Midi channels on the CD20/30

1. Enter the MIDI mode by pressing [MIDI]. The first section is "Channel selection".
2. Press [MIDI] to get to the part programming page. Each page contains two parts. The first page contains the Lower and Upper parts, the second Drum and Bass, the third Acc1 and Acc2. The Common Channel is on the fourth page.
3. Use [PAGE] to change from one part to another and between pages.
4. Change the Midi channel assigned to the part using [TEMPO-DATA].
5. Exit from the MIDI mode by pressing the two [ESC] keys together.

The new settings are kept in the memory even when the instrument has been switched off.

General Midi

Standardized sounds

The General Midi (GM) standard makes sound organisation and the way sounds are selected similar on different types of instrument.

When the CD20/30 is being controlled by an external sequencer, the correct sounds are automatically selected.

The CD20/30 has two sound banks. The second is in General Midi standard while the first is a little different (instead of the "Percussive" group you'll find the "Drum" family). When the option "MIDI:GeneralMidi" is set to ON, a drum kit from the "Drums" family is always assigned to Midi channel 10, while sounds from other groups (including the "Percussive" group) can be selected on all the other channels.

The 16 General Midi parts

Six instrument parts can be controlled directly by the CD20/30, but General Midi requires a multitimbral expander able to receive on 16 different parts.

When the option "MIDI:GeneralMidi" (in the MIDI change mode) is set to ON, the CD20/30 receives on 16 parts, including its own 6 normal parts. This is how the parts and

corresponding Midi channels are mapped:

MIDI channel	Part
1	GM 01
2	Bass
3	Acc 1
4	Lower
5	Upper
6	Acc 2
7	GM 07
8	GM 08
9	GM 09
10	Drum
11	GM 11
12	GM 12
13	GM 13
14	GM 14
15	GM 15
16	GM 16 (or Common Channel)

Assigning a different Midi channel to "standard" instrument part (Upper, Lower, Drum, Bass, Acc1, Acc2) makes the instrument's original channel no longer available. For example, if channel 1 is assigned to the Bass part, an external sequencer will not be able to send data to the CD20/30 on channel 2.

To use the 16 parts as instrument parts, 1) activate General Midi compatibility, 2) disactivate the Common Channel, 3) leave the Midi channels assigned to the "standard" instrument parts unchanged.

When the CD20/30 is controlled by another instrument

How to change the Sound

1. To select a Sound from the second bank, the following message must be sent to the CD20/30 parts:

Control Change 0, value 01

The Control Change 0 is often termed Bank Select. For Sounds belonging to the first bank, the message is not necessary.

2. After Control Change 0, send the Program Change message by selecting the number which corresponds with the Sound chosen. For example, to select Sound "16/Organ 1", send Program Change number 16.

The master may list the Program Change numbers using 1 - 128 instead of 0 - 127. In this case it will be necessary to add 1 to the Program Change numbers of the CD20/30 Sound list.

3. The Sound selected is now assigned to that particular instrument part.

How to change the Style

1. Using the Common Channel, send the CD20/30 a Program Change message with the number which corresponds to the Style required. For example, to select Style "07/Fusion 1", send Program Change number 7.
2. The Style is now set. The Sounds of the instrument parts used for the accompaniment change automatically. If the [AUTOSSET] led is on then the Upper and Lower part Sounds and the tempo will change too.

How to control the Style

To emulate the Style controls, use the Common Channel to send the CD20/30 a Program Change message or, alternatively, Control Change messages, as listed in the tables below.

At the same time, these messages are sent from the CD20/30 to

another instrument (or computer) when the corresponding keys are pressed.

N.B. Set the input filter on the Manual Controls to OFF in the MIDI programming mode.

Style Control	Program Change
Intro	121
Fill Basic	122
Fill Variation	123
Sync Start	124
Variation On	125
Variation Off	126
End	127

The Control Change messages are always followed by the assigned value.

Style Control	Control Change Value
Intro	112-17
Fill Basic	112-18
End	112-19
Sync Start	112-20
Fill Var	112-37
Variation On	112-102
Variation Off	112-38
Harmony On	112-103
Harmony Off	112-39
Memory On	112-104
Memory Off	112-40
Eff1 On	112-105
Eff1 Off	112-41
Eff2 On	112-106
Eff2 Off	112-42
Arrange On	112-107
Arrange Off	112-43

Freestyle On	112-108
Freestyle Off	112-44
Autoset On	112-109
Autoset Off	112-45
Tempo Increment	118-tempo var, divided by 2
Tempo Decrement	119-tempo var, divided by 2

To synchronize the tempo of the CD20/30 to the master, the MIDI CLOCK must be set to EXTERNAL (see the "Midi-Midi Clock special functions" paragraph further on).

When the CD20/30 is controlling another instrument

How to change the Sound

When a Sound is chosen on the CD20/30, the corresponding Program Change number is sent to the slave instrument, on the same instrument part as the CD20/30. In the same way, when the Style is changed, the parts' Program Changes are also sent to the slave.

Where a Sound from the second bank is chosen, the CD20/30 sends - immediately before the Program Change - the Control Change 0 message with a value 01.

How to change the Style

The styles of the slave instrument must be similar to those of the CD20/30. If this is not the case, ignore the CD20/30 Style name but make a note of its number.

The slave instrument must be capable of receiving Style change messages on a Midi channel. If this is possible then the Common Channel should be set to that particular channel, because the CD20/30 sends Style change information on this special part.

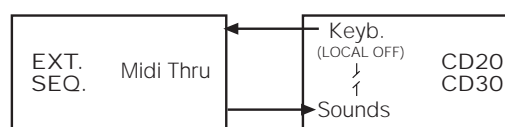
How to control the Style

The slave instrument must be capable of receiving the same control messages used by the CD20/30 (see the "Style Control" table in the previous paragraph).

If this is not the case, only Start/Stop is a standard Midi message, and so the slave will only be able to receive this message.

To synchronize the tempo of the slave to the CD20/30, the MIDI CLOCK must be set to INTERNAL (see the "Midi-Midi Clock special functions" paragraph further on). The slave must have its Midi Clock set to EXTERNAL.

Special MIDI functions



Local ON/OFF

The CD20/30 parts can play the sounds of a slave instrument without necessarily playing its own internal sounds. The parts play the slave without using the CD20/30 internal sounds when the LOCAL OFF function is set.

To play with an external sequencer, (1) set the CD20/30 to single situation, (2) set the Upper part to Local Off. Activate Midi Thru on the external sequencer. When you play the CD20/30 you are hearing the part selected on the sequencer and not the Upper part of the CD20/30:

1. Press [MIDI] to enter the MIDI programming mode.
2. Use the [Page>] key to reach the "MIDI: Local ON/Off" section.
3. Press [MIDI] to call up the pages. There are three pages which each contain two of the six CD20/30 instrument parts: the first page contains the Lower and Upper parts, the second is for Drum and Bass, the third covers Acc1 and Acc2.
4. Pass from one page to another and from one part to the next using [PAGE].
5. Use [TEMPO-DATA] to set the part selected to ON or OFF.
6. Press both [ESC] keys together to exit from the MIDI mode. These settings will remain in the memory even when the instrument has been switched off.

Slave Keyboard: Tracks

When used as a slave, the CD20/30 can receive two, six or sixteen Midi parts. Receiving two parts allows more polyphony (that is to say, a larger number of voices).

When the master is switched on, the "Slave Keyb: Tracks" (in the MIDI mode) is automatically set to ON and the CD20/30 receives on six instrument parts. If you only want to use the Upper and Lower parts then enter the Midi mode and set the function to OFF.

1. Press [MIDI] to enter the MIDI programming mode.
2. Use the [Page>] key to reach the "Slave Keyb: Tracks" section.
3. Use [TEMPO-DATA] to set the function to either ON or OFF.
4. Press both [ESC] keys together to exit from the MIDI mode. If the "MIDI:GeneralMidi" option has been set to ON, the CD20/30 still receives on 16 parts so as to maintain perfect General Midi compatibility.

MIDI Clock

The Midi Clock controls synchronization between two electronic musical instruments. "MIDI: Clock Int/Ext = Intern" (internal) means that the instrument is synchronized to its own internal tempo and is able to transmit this and subsequent changes to a slave. "MIDI: Clock Int/Ext = Extern" (external) means that the instrument is synchronized to the tempo dictated by a master, so to set a Style or Song running it will be

necessary to use the master to start it.

CD20/30 as a master

CD20/30	Clock Internal
slave	Clock External

CD20/30 as a slave

CD20/30	Clock External
master	Clock Internal

1. Press [MIDI] to enter the MIDI programming mode.
2. Use the [Page>] key to reach the "MIDI:Clock" section.
3. Use [TEMPO-DATA] to set the function to either INTERN or EXTERN.
4. Press both [ESC] keys together to exit from the MIDI mode. These settings will remain in the memory even when the instrument has been switched off.

Start/Stop ON/OFF

You can choose whether or not the CD20/30 receives and sends the Start/Stop message. If the function is set to ON the Start/Stop message is received and sent, but if it is set to OFF then Start/Stop is ignored.

1. Press [MIDI] to enter the MIDI programming mode.
2. Use the [Page>] key to reach the "MIDI:Slave Keyb-Start/Stop" section.
3. Use [TEMPO-DATA] to set the function to either ON or OFF.
4. Press both [ESC] keys together to exit from the MIDI mode. These settings will NOT remain in memory after the instrument has been switched off.

MIDI Filters

Certain messages can be "filtered" (excluded) from communications. This could be useful for solving compatibility problems between the CD20/30 and a Midi song file programmed for different musical instruments which may use different Program Changes or messages to those of the CD20/30.

1. Press [MIDI] to enter the MIDI programming mode.
2. Use the [Page>] key to reach the "MIDI: Filters" section. Select the "Input" (MIDI IN filters) or the "Output" (MIDI OUT filters) group using the [Page] key.
3. Press [MIDI] to get to the filter programming pages. Each page corresponds to a different filter of Midi messages:

Message displayed	Filter
P.Chg	Program Change
C.Chg	Control Change
Damp	Damper Pedal

Bend	Pitch Bend
Man	Manual Controls (= Style control using Program Change on the Common Channel).
G.Mus	Generalmusic Controls (= Style and tempo controls using Program Change on the Common Channel).

Use the [PAGE<] and [PAGE>] keys to move from one page to the next.

4. Use [TEMPO-DATA] to turn the selected filter ON or OFF. ON means the message cannot be communicated while OFF allows it through.
5. Press both [ESC] keys together to exit from the MIDI mode. These settings will remain in memory even when the instrument has been switched off.

MIDI Dump

The programmable Songs and Styles contained in the memory can be sent in the form of System Exclusive data to an external sequencer (or Computer), a Midi Data Filer, or another CD instrument, transmitted using DUMP-SAVE.

Furthermore, by means of the DUMP-LOAD function, CD20/30 can also receive programmable Songs and Styles from an external device.

To send data:

1. Press [MIDI] to enter the MIDI programming mode.
2. Use the [Page>] button to pass to the "MIDI: Dump" section. Select the "Save" function with the [Page] button. Press [MIDI] to gain access to the function.
3. The display will show a request to insert the name of the "file" to be sent to the external sequencer:

**DUMP:Save
Name=?**

4. Use the alphanumeric keypad to insert the characters (each button of the keypad provides three characters which are selected by pressing the button repeatedly until the required character appears).
Press [PAGE>] to advance one space. Press [PAGE<] to move back one space. The name can be up to seven characters long.
5. Confirm the name using [MIDI] or cancel the Dump request with [ESC]. The display will show "SURE?".
6. Start recording on the sequencer connected to the CD20/30.
7. Press [MIDI] to start the data transfer to the external sequencer. The CD20/30 display will show the "Wait please" message.
8. On completion, stop the recording on the external sequencer and save the data to floppy disk.

To receive data:

This operation erases any Songs and Styles which are in the CD20/30 memory!

The CD20/30 can receive compatible System Exclusive data from another CD (CD2, CD3, CD10, CD20, CD30 models) or from an external sequencer using Midi Dump. When these devices start a Midi Dump, the CD20/30 automatically renders itself receptive no matter what mode it may be in at the time.

The procedure may also be effected manually however, as follows:

1. Press [MIDI] to enter the MIDI programming mode.
2. Use the [Page>] key to reach the "MIDI: Dump" section. The "Load" function is selected. Press [MIDI] to call up the function.
3. Press [MIDI] to put the CD20/30 in the ready mode. The CD20/30 display shows the message "Wait Data". The [ESC] keys cancel this operation.
4. Press "play" on the external sequencer. The data is transferred to the CD20/30 memory.
5. On completion, the data has been transferred to CD20/30 memory. Songs and Styles which were previously in the memory have now been erased.

Dynamics

It is possible to enable/disable the keyboard dynamic function as well as reception and transmission via Midi of Velocity messages.

1. Press [MIDI] to enter the MIDI programming mode.
2. Use the [Page>] key to reach the "MIDI: Dymanic Kb" section.
3. Use [TEMPO-DATA] to set the dynamic function to OFF (or ON again).
4. Press both [ESC] keys together to exit from the MIDI mode.

Disks

The CD30 incorporates a disk drive which takes 3.5" DD-DS (720 kb) disks. The disk drive can read CD, GEM WS and MS-DOS disks. Data can only be saved to disks in CD format.

The Generalmusic catalogue contains numerous Song and Style disks, covering the best of modern musical repertoire.

A few rules

Using disks is very simple. Read the following instructions for use in order to learn how to use them and keep their contents unharmed.

- Before you can use a disk to save your data on, it needs to be formatted: follow the procedure described in the "How to format a disk" paragraph.
- Do not format commercial disks containing data already programmed (e.g. those from the Generalmusic library or the demo disk which comes with the instrument).
- Do not take a disk out of the disk drive while the "busy" led is on.
- Protect a disk containing important data, and on which you do not wish to write, by sliding the tab so that you can see through the notch.
- Keep disks away from sources of heat, cold, magnets, audio equipment, telephones, fridges and other electrical appliances containing magnets.

The contents of a disk

Data is memorized on a disk in the form of files.

A disk can contain four different types of file. A file name is composed of a maximum of 8 characters, a separation point and a final identification extension of 3 letters (ex: SONG001.SNG). The four different types of file are listed in the following table:

_____ .ALL	The whole contents of the CD30 memory: 4 Songs, 8 Prog. Styles, Samples.
_____ .SCD	Samples.
_____ .STY	A group of 8 Prog. Styles.
_____ .SNG	A group of 4 Songs.

How the DISK mode is structured

The DISK functions are spread over various pages. Use [PAGE] to move between one function and the next. To call up that particular function press [DISK]. Press [ESC] to exit the function.

Here is a list of functions:

DISK: Select-Load	Selects and loads a file (from disk to the CD30 memory).
DISK: Select-Save	Selects and saves a file (from the CD30 memory to disk).
DISK: Select-Format	Formats the disk which is in the disk drive.
DISK: Select-Delete	Selects and deletes a file from the disk.
DISK: Load-MIDIFILE	Selects and loads a Midi File.

Exiting the DISK mode

Press the two [ESC] buttons.

How to format a disk

Format a new disk before using it to save data. This procedure allows a disk to be recognized by the CD30 disk drive.

1. Insert the new disk, unprotected, into the disk drive.
2. Press [DISK] to enter the DISK mode.
3. Find the "DISK: Select-Format" function by repeatedly pressing [PAGE>].
4. Press [DISK] to start formatting.
5. The question "Format/sure?" appears. Press [DISK] to confirm the formatting procedure. Alternatively, press the two [ESC] buttons to cancel.
6. Wait for about one minute while the disk is being formatted.

How to load data from a disk

Note: Loading a file from disk automatically erases the file data already in the memory. If you want to retain that information, then save it to disk before loading the new data.

1. Insert into the disk drive the disk from which you want to load the data.
2. Press [DISK] to enter the DISK mode.
3. The "DISK: Select-Load" function is selected. Press [DISK] to start the operation.
4. Use the [PAGE] buttons to select the type of file.
5. Press [DISK] to view the files of that type on the disk.
6. Select the file you want with the [TEMPO-DATA] buttons.
7. Press [DISK] to load the file which has been selected.
8. The question "Load/sure?" appears. Confirm with [DISK], or cancel the operation with the [ESC] buttons.
9. If you are loading a ".SNG" or ".STY" you will have to choose whether to load all the Songs or Styles contained in the file, or if just one Song or Style is to be loaded Style. "SONG: Select" appears on the display:

SONG:Select
ALL 96 Song

or the message "STYLE: Select":

STYLE:Select
All 88B00GIE

If you want to load a whole file then press [DISK] to confirm. If you want to select just one Song or Style, press [PAGE>] to make the Song or Style name flash, select the Song or Style using [TEMPO-DATA], confirm that selection with [DISK].

"PLEASE: Clear Styles or Songs"

If the memory is full, the loading procedure is cancelled. The "Please clear Styles or Songs" message appears on the display.

1. Press [ESC] to make the error message disappear.
2. Erase the least important data from memory using the sequencer deletion functions (read the chapters on Songs and Style programming).
If necessary, save the memory contents in an ".ALL" file for future use.
3. Repeat the loading procedure.

Assigning Samples to the Touch Keyboard

The Touch Keyboard sounds depend on the drumkit selected. To use the Samples it is necessary to assign one or more drumkits to substitute the sounds normally used. Assigning Samples to a drumkit is carried out in the DISK mode.

1. Load the Sample from disk.
2. Press [DISK] to return to the DISK mode.
3. Find the "DISK: Select Kit" function using [PAGE>]:

DISK:Select Kit
DrKit112 Intern

4. Select the drumkit with the [TEMPO-DATA] buttons. Use [PAGE>] to find the parameter you want. Edit that parameter with the [TEMPO-DATA] buttons. Return to the drumkit using [PAGE<].
The parameter can be "Intern" (the Touch Keyboard uses the internal sounds, that is, the original ones), "Extern" (where the Touch Keyboard uses external ones, the Samples) or "Empty" (which means the Sample is not in memory and internal sounds must be used).
5. Use the [ESC] buttons to exit the MIDI mode.

How to Save data to disk

To save to disk there will have to be enough space available on that disk to contain the new data. If there is not then format a new disk.

The memory contents can be saved in an existing file (all the previous data is erased), or you can create a new file.

1. Insert the disk into which you want to load data into the

disk drive.

2. Press [DISK] to enter the DISK mode.
3. Find the "DISK: Select-Save" function using the [PAGE>] buttons.
4. Press [DISK] to start the Save operation.
5. Use [PAGE] to select the type of file required (the extensions to choose from are: ".ALL", ".SCD", ".STY", ".SNG").
6. Press [DISK] to view the type of file selected on the disk.
- 7a. If you want to substitute an existing file, select the file required using the [TEMPO-DATA] buttons. Press [DISK] to save the data. When "Save/sure?" appears, confirm by pressing [DISK] or cancel with the [ESC] buttons.
- 7b. If you want to create a new file, press [NAME] on the keypad. The CD30 makes itself ready to receive the new file name:

DISK: Save
.STY

Use the keypad to key in the letters/numbers (each key has three characters, which appear one after the other in cycles each time the key is pressed).

Press [PAGE>] to move forwards one space. Press [PAGE<] to go back one space.

Press [DISK] to save the data. When the "Save/sure?" message appears confirm it with [DISK].

Reading GEM WS disks

Compatibility with the GEM WS series

GEM WS series keyboards are now no longer in production, but their musical library is one of the largest in the world.

The CD30 can read Song Patterns and Prog.Styles from disks in WS format, converting them into in RealSongs and Prog. Styles. RealSongs and Styles can be saved to disk as normal CD30 data.

GEM WS Series Song Patterns

The GEM WS has a five track sequencer, through which it is possible to create Song Patterns. GEM WS Song Patterns are similar, even though not completely identical, to the CD30 RealSongs.

Conversion changes the GEM WS Song Pattern tracks into CD30 Song tracks:

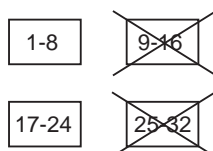
GEM WS	CD30
Track A (usually Drums)	Acc2
Track B	Bass
Track C	Acc1
Track D	Lower
Track E	Upper
Drum: is disactivated (Off)	

GEM WS Series Prog.Styles

A GEM WS disk can contain Style file, each of which can hold up to 32 Prog.Styles. GEM WS Prog.Styles are similar, even if not exactly identical, to the CD30 Prog. Styles (88-95).

The CD30 can only load 8 of the 32 Styles contained in a GEM WS file. Search is carried out in sequence in Styles from 1 to 8, then from 17 to 24. The CD30 always reads the first 8 Styles it finds:

WS FILE



How to load a GEM WS Song pattern

1. Insert the GEM WS disk in the CD30 disk drive.
2. Press [DISK] to enter the DISK edit mode.
3. "Load" is selected. Press DISK to call up the Load procedure.
4. GEM WS file have ".ALL" extensions. The ".ALL" type is already selected on the display. Press [DISK] to start the loading procedure.
5. The first file found on the GEM WS disk appears. Use the [TEMPO-DATA] buttons to select the file you want.
6. Once the file to be loaded is shown on the display, press [DISK] to load that file. The question "Load/sure?" appears.
7. Press [DISK] to confirm, or the [ESC] buttons to interrupt the loading procedure.
The new RealSong is memorized in location 99. The whole memory content is substituted by the file ".All" as soon as it is loaded.
8. Since GEM WS is not a GeneralMidi instrument, it may be necessary to set the track Program Changes manually using the EDIT function.

How to load a GEM WS Prog.Style

1. Insert the GEM WS disk in the CD30 disk drive.
2. Press [DISK] to enter the DISK edit mode.
3. "Load" is selected. Press DISK to call up the Load procedure.
4. GEM WS file have ".ALL" extensions. The ".ALL" type is already selected on the display. Press [DISK] to start the loading procedure.
5. The first file found on the GEM WS disk appears. Use the [TEMPO-DATA] buttons to select the file you want.
6. Once the file to be loaded is shown on the display, press [DISK] to load that file. The question "Load/sure?" appears.
7. Press [DISK] to confirm, or the [ESC] buttons to interrupt the loading procedure.

The new Prog. Styles are memorized in locations 88-95. As soon as the ".ALL" file is loaded, it erases the whole of the memory content.

Dynamic level conversion ("WS Dynamic Level" function)

For every note, MIDI instruments transmit, receive or record the dynamic value (or Velocity). The dynamic is the intensity with which the note was played. Its value can range between 1 (lowest intensity) and 127 (highest intensity).

Since the GEM WS dynamic is different to that of the CD30, it may be necessary to edit the dynamics of the Song Patterns and Prog.Styles loaded from GEM WS disks. If this is not done, the tracks loaded may sound "too soft", owing to these different dynamics.

The "WS Dynamic Level" function in the DISK acts as a filter for GEM WS data. You may find it necessary to program this function before loading a Song Pattern or a Prog.Style file.

1. Press [DISK] to enter the DISK mode.
2. Find the "Dynamic Level" page using [PAGE>]:

WS DYN. LEVEL:
Drum = Level 1

3. Use the [PAGE] buttons to move backwards and forwards between the track and assigned value.
4. Select the track and the "Level" value assigned using the [TEMPO-DATA] buttons.
Four dynamic levels are available (Level 1 is selected by default):
 - Original: the same dynamic value as the GEM WS;
 - Level 1: values from 64 to 127 (lower values are raised to 64);
 - Level 2: values from 96 to 127 (lower values are raised to 96);
 - Level 3: all dynamics set to 127.
5. Exit the DISK mode using the [ESC] buttons. The settings remain in memory even when the instrument has been switched off.

Reading Midi Files

Midi Files are particular files which allow the CD30 to read from disk Songs which have been created using computers or other musical instruments which incorporate sequencers. Songs in Midi file format are so widespread that can be found freely available in retail outlets.

How to create a Midi File with a sequencer

Normally, sequencers or musical instruments save Songs in their exclusive format, which does not permit the exchange of data with other instruments. Fortunately, almost all computer based sequencers and certain musical instruments can also save Songs in the exchangeable 'Midi File' format. Copy the Midi Files onto a 720 kb disk formatted in Ms-Dos

or Atari. (It is possible to format a disk in Ms-Dos format also on Macintosh and Amiga, using dedicated utilities such as PC Exchange™ or Dos2Dos™).

Some rules to observe when using Midi Files with the CD30

- A Midi File can only be loaded if it does not exceed 70 kb. If it does exceed this, the following message appears on the display:

FILE TOO BIG!!
Press "ESC"

Press [ESC] to cancel the operation.

- It is only possible to load one Midi File in the CD30 memory. Loading one Midi File cancels any other which may already be in the memory.
- Loading Midi Files causes existing Songs and Prog. Styles to be lost.
- It is not possible to edit a Midi File. If you try to call up record by pressing [CHORD] the following message appears:

ERASE MIDIFILE?
Press "CLEAR"

In this case, press [CLEAR] to erase the Midi File and enter the record mode, or [ESC] to keep it in the memory.

How to load a Midi File

1. Insert the Ms-Dos or Atari formatted disk (720 kb) in the CD30 disk.
2. Press [DISK]. The first page of the DISK mode appears ("Load").
3. Find the "DISK: Load-Midi File" function by repeatedly

pressing the [PAGE>] button:

DISK: Load
MIDI FILE

4. Press [DISK] to call up the function. The name of one of the Midi Files on the disk appears:

DISK: Load
MYWAY .MID

5. Use the [TEMPO-DATA] buttons to scroll through the list of files contained on the disk, until the one you want is shown.
6. Press [DISK] to start loading. The question "Load/sure?" appears. Confirm with [DISK], or cancel using the [ESC] buttons.
7. If the file is no larger than 70 kb it is loaded to memory (at position number 99).

Any Songs and Styles which may have already been existent are now erased. If you wish to retain that data, before loading the Midi File, save the memory contents to a CD formatted disk.

General Midi compatibility and the [AUTOSSET] button are automatically activated.

Playback of a Midi File

A Midi File can be played as a normal Song.

Press [START/STOP] to start playing a Midi File. Stop play using [START/STOP] and use [SYNC START] to resume playing.

As for any other Song, during playback the Upper and Lower tracks of the CD30 sequencer can be disactivated, using the relative buttons in the SEQUENCER section.

Usually, in Midi Files, the melody is on Midi channel 4, which on the CD30 is assigned by default to the Lower track. To mute the melody part of a Midi File on the CD30 therefore, all you need to do is disactivate the Lower track.

If you should program a Song using an external sequencer, remember to assign the melody part to Midi channel 4 or 5, so that you can mute it later on the CD30.

During playback it is also possible to activate/disactivate and change the effects.

Glossary

Sound bank: One of the two groups of 128 Sounds in the CD20/30. A list of the first Sound bank is printed on the Hyperkeyboard control panel, the second can be found in the appendix of this manual.

Coda: The final part of a musical song. For example, when a singer finishes off a song with a few bars which are neither the verse nor the chorus, but makes it clear that the song is coming to an end. The singer is then said to be adding a "coda".

Damper: Also known as "sustain", corresponds with a normal acoustic piano sustain pedal on the CD20/30 (and normally in other MIDI instruments too).

Dynamic: This is the intensity with which a note is played; as on a normal acoustic piano, the stronger you press down the keys, the more intense the sound will be.

Display: A small liquid crystal screen on the control panel which displays the CD20/30 messages for the musician. The display is used to edit MIDI and DISK and to create Prog.Styles and Songs.

Drumkit: A kit of different percussion instruments. The CD20/30 has 8 drumkits available (Sounds 112 to 119 in the first Sound bank).

Effects: Devices for enhancing or making sound more realistic.

Ending: See. Coda

Harmony: The CD20/30 automatic harmony function.

Headphones: Stereo headphones. The socket is on the back panel of the instrument.

Fill: A musical "interlude".

Intro: Introduction, the lead in to a song.

Master: A device (keyboard or sequencer) which can control another instrument, a Slave, via MIDI.

Master keyboard: An electronic keyboard or other electronic musical instrument which can play another instrument via MIDI.

MIDI: Musical Instruments Digital Interface. Allows one electronic musical instrument to control another. IN is the port through which the instrument receives messages from the OUT of another instrument. OUT is the port through which the instrument transmits messages to the IN of the other instrument. THRU is a port which re-transmits all incoming messages from the IN port.

Modulation: "Vibrato" produced using the Pitch/Modulation Ball on the sound of the Upper part. Modulation is also transmitted (and received) via MIDI.

Pitch Bend: "Glissando" ("note bending") produced using the effect Pitch/Modulation Ball on the Upper part sound. Pitch Bend is also transmitted (and received) via MIDI.

Play: Playback of a Song.

Program Change A Sound identification number. When a MIDI instrument sends a Program Change message, the receiving instrument changes the sound, by selecting the sound to which the Program Change code received corresponds.

Record: Recording musical events.

Sequencer: A Song and Style recorder. The CD20/30 incorporates a 6/16 track sequencer (6 tracks + special tracks in normal Style and Song mode, 16 tracks for playing Midi Files).

Slave: An instrument which can be controlled via MIDI by a Master instrument.

Song A musical piece produced with a sequencer. The CD20/30 can record and store up to four Songs.

Sound: One of the 128+128 sounds which the CD20/30 can generate.

Style: Automatic accompaniment and in particular musical "style". In the CD20/30 this is carried out by the Drum, Bass, Acc1 and Acc2 parts, with sound programming for the Upper and Lower parts.

Track: One of the Style and Song parts which contain the notes that make the instrument parts play automatically.

Transposer: Transposition is the act of moving notes up or down in the tonal range.

Tune: Fine tuning the instrument in fractions of a semitone.

Technical specifications

Keyboard: 61 note with dynamics (On/Off)

Pedal controls: Volume, Damper (Sustain)

Pitch/Modulation Ball

Polyphony: 16/32 notes (including the Touch Keyboard)

Effects: 2 processors (16 reverbs + 16 modulations)

Multitimbral function: 6/16 parts

Sounds: 128+128 Sounds compatible with GeneralMIDI

Drumkit: 7 kits compatible with GeneralMIDI, 1 kit compatible with the GEM WS series

Non-programmable Styles: 88 Styles, 88 Variations

Programmable Styles: 8 Styles, 8 Variations not cancelled when the instrument is switched off

Editing: Quantize, Clear, Erase, Copy, Name

Song: 4 multitrack songs, not cancelled when the instrument is switched off

Editing: overwriting, Quantize, Clear, Erase, Name

MIDI: In, Out, Thru

MIDI synchronization: Clock Internal/External

Midi Dump

Audio outputs: 2 mono jacks (Left+Right) for external amplification, Headphones

Built in amplification 5+5 watts

Audio inputs: 2 mono jacks (Left+Right)

Dimensions (L•H•D): 966 •108•322 mm

Weight: (CD20) 6 kg, (CD30) 6,3

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